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EXAMINER

OJURONGBE, OLATUNDE S

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,404	Applicant(s) HOWE ET AL.	
	Examiner OLATUNDE S. OJURONGBE	Art Unit 4145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20041217</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Election/Restrictions***

1. Applicant's election of Group I, claims 1-10 in the reply filed on 14 January 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 11-13 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim.

Claim Objections

3. Claim 1 is objected to because of the following informality: Step (V) of the claim recites a liquid silicone preparation formed in step (III) rather than step (IV). Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 4, 5, 8, 9 and 10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4, 5, 7, 8 and 9 of copending Application No. 10/518344. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 1 of the instant application is not patentably distinct from claims 1 and 2 of copending application US 10/518344, because all the limitations of instant claim 1 are also recited in claims 1 and 2 of US 10/518344.

While the process recited in claims 1 and 2 of copending application US 10/518344 further comprises a plasma jet spraying step, since the instant claim 1 is open-ended (comprising) and does not explicitly disclose the method through which the silicone preparation is applied to the substrate, it does not exclude the possibility of applying the silicone preparation to the substrate using the plasma jet spraying step disclosed in claim 1 of copending application US 10/518344.

Claim 4 of the instant application is not patentably distinct from claim 4 of copending application 10/518344, though the steps disclosed in instant claim 4 are more detailed, it would be obvious to one of ordinary skill in the art at the time the

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invention was made that the extra steps recited by the instant claim are needed when a multilayer coating is required on the substrate.

Claim 5 of the instant application is not patentably distinct from claim 5 of the copending application US 10/518344, because all the limitations of the instant claim 5 are recited in claim 5 of the copending application.

Claim 8 of the instant application is not patentably distinct from claim 7 of the copending application US 10/518344, because all the limitations of the instant claim 7 are recited in claim 7 of the copending application.

Claim 9 of the instant application is not patentably distinct from claim 8 of the copending application US 10/518344, because all the limitations of the instant claim 9 are recited in claim 8 of the copending application.

Claim 10 of the instant application is not patentably distinct from claim 9 of the copending application US 10/518344, because all the limitations of the instant claim 10 are recited in claim 9 of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

6. 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bohin et al (WO98/05723, see English Language equivalent US 6,369,184).

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Regarding claim 1, Bohin et al discloses a process for the production of an assembly comprising several silicone elements crosslinked by the polyaddition of =Si-H units onto =Si-alkenyl (preferably =Si-vinyl) units, said elements adhering firmly to one another, comprising the following essential steps: - (1) forming a silicone element (i) with a liquid silicone preparation (i) comprising:

- polyorganosiloxanes (POS) A with =Si-alkenyl (preferably =Si- vinyl) units (col.2, lines 42-43, col.7, lines 32-34 and col.13, lines 1-13),
- polyorganosiloxanes (POS) B with =Si-H units (col.2, lines 44-45, col.8, lines 17-18 and col.13, lines 14-21),
- at least one metal catalyst C, preferably based on platinum (col.2, lines 46-48),
- optionally at least one POS resin D carrying =Si-alkenyl (preferably =Si-vinyl)units (col.6, lines 7-32),
- optionally, at least one crosslinking inhibitor E (col.2, line 52),
- optionally, at least one adhesion promoter F (col.2, line 49),
- optionally at least one mineral filler G (col.2, line 50),

(II) crosslinking the liquid silicone preparation (i) formed in step (I), (col.10, lines 22-27).

However Bohin et al does not explicitly state that the composition of this preparation and the crosslinking conditions were chosen in such a way that the crosslinked silicone element (i) has a surface density SD of unreacted, residual alkenyl

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(preferably vinyl) groups, per nm², defined as follows: $SD \geq 0.0015$, preferably

$SD \geq 0.0030$, and particularly preferably $0.0100 \geq SD \geq 0.0040$.

Bohin et al further discloses that the crosslink (curing) process is between alkenyl (e.g vinyl) groups of one polyorganosiloxane onto hydrogens of the same or of another polyorganosiloxane (col.1, lines 16-20).

The surface density of an item is the quantity (amount) of the item per unit surface area.

Since the instant specification is silent to unexpected results, the surface density of unreacted residual alkenyl (preferably vinyl) groups, per nm² is not considered to confer patentability to the claims. As the amount of alkenyl (preferably vinyl) group available for crosslink formation is a variable that can be modified, among others, by adjusting said surface density of unreacted residual alkenyl (preferably vinyl) groups, per nm² on the crosslinked silicone element (i) (as evidenced by Bohim, above), with said amount of alkenyl (preferably vinyl) group available for crosslink formation on the crosslinked silicone element (i) increasing as the surface density of unreacted residual alkenyl (preferably vinyl) groups, per nm² increases; the surface density of unreacted residual alkenyl (preferably vinyl) groups, per nm² on the crosslinked silicone element (i) would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed surface density of unreacted residual alkenyl (preferably vinyl) groups, per nm² on the crosslinked silicone element (i) cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the surface density of unreacted residual alkenyl (preferably

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vinyl) groups, per nm² on a formed elastomer coating in the composition of Bohin et al to obtain the desired amount of functional group available for crosslink formation (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

While the reference does not explicitly disclose steps (IV), forming a silicone element (ii) by bringing the crosslinked silicone element or last crosslinked silicon element (i) into contact with a liquid silicone preparation (ii) and (V), crosslinking the liquid silicone preparation (ii) formed in step (IV) to give the crosslinked silicone element (ii) that adheres to the element or last element (i). The examiner notes that instant steps (IV) and (V) are duplication of instant steps I and II.

Mere duplication of parts or process steps has no patentable significance, unless a new and unexpected result is produced, since it involves only routine skill in the art.

Though Bohin et al discloses the formation of the silicone element once, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the silicone element formation steps has to be repeated if more than one coating (or a thicker coating layer) is required on the substrate.

Regarding claim 2, Bohin et al discloses all the claim limitations as set forth above and further discloses the process wherein the ratio R of the =Si-H units to the =Si-alkenyl (preferably =Si-vinyl) units in the selected liquid silicone preparation (i) is defined as follows: $R \leq 1$, (col.13, lines 7-21).

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However Bohin et al did not disclose a ratio of R, preferably $0.80 \leq R \leq 0.98$

Since the instant specification is silent to unexpected results, the ratio R of =Si-H to =Si-alkenyl (preferably =Si-vinyl) units in the selected liquid silicone preparation is not considered to confer patentability to the claims. As the quantity of =Si-H functional groups available for crosslink formation is a variable that can be modified, among others, by adjusting said ratio R, of =Si-H to =Si-alkenyl (preferably =Si-vinyl) units in the selected liquid silicone preparation, with the quantity of =Si-H functional group available for crosslink formation increasing as the ratio R increases, the ratio R of =Si-H to =Si-alkenyl (preferably =Si-vinyl) units in the selected liquid silicone preparation would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed ratio R of =Si-H to =Si-alkenyl (preferably =Si-vinyl) units in the selected liquid silicone preparation cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the ratio R of the liquid silicone preparation in the composition of Bohin et al to obtain the desired amount of =Si-H functional group available for crosslink formation (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Regarding claim 3, Bohin et al discloses all the claim limitations as set forth above and further discloses a liquid silicone preparation (i) which comprises at least one hyper alkenylated (preferably hyper vinylated) POS A, providing =Si-alkenyl (preferably

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=Si-vinyl) units, advantageously being carried essentially by siloxyl units D –R₂SiO₂/2- (col.7, lines 34-38).

However, Bohin et al did not disclose a process, wherein the selected liquid silicone preparation (i) comprises at least one hyperalkenylated (preferably hypervinylated) POS A providing =Si-alkenyl (preferably =Si-vinyl) units, whose content is greater than or equal to at least 2% by number, preferably greater than or equal to at least 3% and particularly preferably between 3 and 10% by number, the =Si- alkenyl (preferably =Si-vinyl) units advantageously being carried essentially by siloxy units D: -R₂SiO₂n.

Since the instant specification is silent to unexpected results, the % by number of the =Si-alkenyl (preferably =Si-vinyl) units present in the selected liquid silicone preparation (i) is not considered to confer patentability to the claims. As the amount of =Si-alkenyl (preferably =Si-vinyl) functional group in the silicone preparation (i) available for crosslink formation is a variable that can be modified, among others, by adjusting said % by number of the =Si-alkenyl (preferably =Si-vinyl) units present in the selected liquid silicone preparation, with amount of =Si-alkenyl (preferably =Si-vinyl) functional group increasing as the % by number of the =Si-alkenyl (preferably =Si-vinyl) units increases, the precise % by number of the =Si-alkenyl (preferably =Si-vinyl) units present in the selected liquid silicone preparation (i) would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed % by number of the =Si-alkenyl (preferably =Si-vinyl) units present in the selected liquid silicone preparation (i) cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the % by

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number of the =Si-alkenyl (preferably =Si-vinyl) units present in the selected liquid silicone preparation (i) in the composition of Bohin et al to obtain the desired amount of =Si-alkenyl (preferably =Si-vinyl) functional group (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Regarding claim 4, Bohin et al discloses all the claim limitations as set forth above and further discloses the process, wherein: - the assembly produced comprises a preferably flexible substrate and several crosslinked silicone elements forming a multilayer coating adhering to the substrate;

- step (I) comprises applying the liquid silicone preparation (i) to the substrate to form a crosslinked silicone layer (i) (col.12, lines 33-35),
- and step (IV) comprises applying the liquid silicone preparation (ii) to the crosslinked silicone layer or last crosslinked silicone layer (i) carrying residual reactive groups on the surface, to form a crosslinked silicone layer (ii) (col.12, lines 35-40).

Regarding claim 5, Bohin et al discloses all the claim limitations as set forth above and further discloses the process, wherein the assembly produced is a silicone mold or molded object. (col.10, lines 30-36).

Regarding claim 6, Bohin et al discloses all the claim limitations as set forth above.

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However, Bohin et al did not explicitly disclose the process, wherein steps (IV) and (V) are only carried out after a prolonged interruption of the process.

Bohin et al further discloses that the crosslinking (curing) process of the silicone preparation could be carried out for 4 minutes at 150°C in an oven. (col. 14, lines 54-60).

Since the coating of the substrate is not done at 150°C, and Bohin et al inherently discloses the coating of the substrate at room temperature (col.10, lines 18-27 and col. 13, lines 52-53), it would have been obvious to one of ordinary skill in the art at the time the invention was made that a cooling interval is needed for the substrate before subsequent coatings could be applied; the cooling interval is the prolonged interruption of the process.

Regarding claim 7, Bohin et al discloses all the claim limitations as set forth above and further discloses a process according to claim 4, wherein the second and last liquid silicone preparation is identical (col.12, lines 33-35) .

Regarding claim 8, Bohin et al discloses all the claim limitations as set forth above and further disclose the process, wherein the chosen POS (A & A') have siloxy units of the formula $W_aZ_bSiO(4-(a+b))/2$ (see $TaZ_bSiO(4-(d+e))/2$ col.6, lines 46-66), lines in which:

- the symbols W, which are identical or different, are each an alkenyl group and preferably a C2-C6 alkenyl;
- the symbols Z, which are identical or different, are each a non-hydrolyzable monovalent hydrocarbon group that is devoid of an unfavorable action on the activity of the catalyst,

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is optionally halogenated and is preferably selected from alkyl groups having from 1 to 8 carbon atoms inclusive, and from aryl groups; (col.6, lines 46-64 and col. 13, lines 7-13)

- a is 1 or 2, b is 0, 1 or 2 and a + b is between 1 and 3; (col.6, lines 65-66).

- optionally at least some of the other units are units of the empirical formula $ZcSiO(4-c)/2$ in which Z is defined as above and c has a value of between 0 and 3. (col.6, line 66-col.7, line 6).

Regarding claim 9, Bohin et al discloses all the claim limitations as set forth above and further discloses the process, wherein the chosen POS (B & B') have siloxy units of the formula $HdLeSiO(4-(d+e))/2$ in which:

- the symbols L, which are identical or different, are each a non-hydrolyzable monovalent hydrocarbon group that is devoid of an unfavorable action on the activity of the catalyst, is optionally halogenated and is preferably selected from alkyl groups having from 1 to 8 carbon atoms inclusive, and from aryl groups; (col.7, lines 45-54 and col.13, lines 14-21)

- d is 1 or 2, e is 0, 1 or 2 and d + e has a value of between 1 and 3; (col.7, lines 55-56)

- optionally at least some of the other units being units of the empirical formula $LgSiO(4-g)/2$

in which L is as defined above and g has a value of between 0 and 3.(col.7, lines 57-64).

Regarding claim 10, Bohin et al discloses all the claim limitations as set forth above and further discloses the process, wherein the alkenyl groups W of the POS (A &

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A') and/or of the POS resins (D & D') are vinyl groups Vi carried by siloxy units D and optionally M and/or T (col.7, lines 34-36).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272 1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 4145